

Curvaceous Keepsake Box

An elegant treasure as easy to build as it is breathtaking to behold



Dimensions: 11½" W × 7½" D × 3" H

Splines have been used for centuries to increase the strength of miter joints. The long-grain-to-long-grain contact between the splines and box sides provides a far stronger glue bond than the end grain of a miter joint. For this box, I played up the decorative element of the splines, using wenge because it contrasts nicely against the lighter cherry of the box. (Find sources for the wenge and the spalted maple used for the lid on [page 57](#).) If you've never tried splined miter joints before, don't worry—a super-simple tablesaw jig makes cutting the spline slots quite easy.

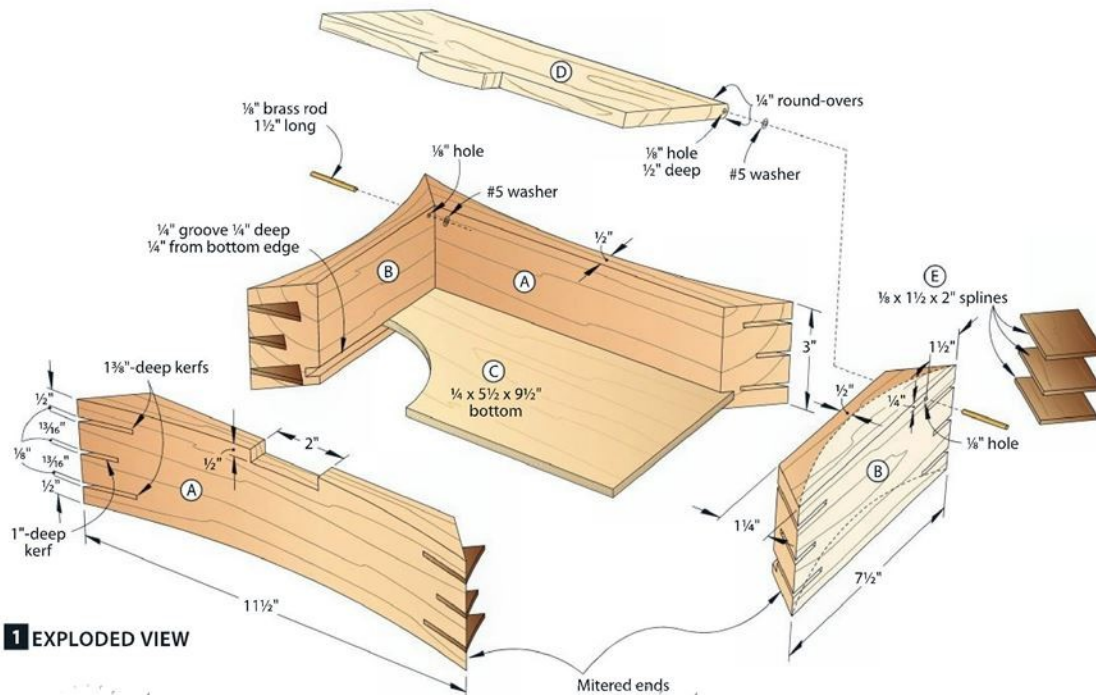
Kevin

Kevin Boyle, Senior Design Editor



Cut and assemble the box

- 1** From 1¼" cherry, cut two 3×20½" blanks for the front/back (A) and sides (B). Cut a groove to fit the thickness of the plywood bottom (C) ¼" deep and ¼" from the bottom edge of the two blanks [[Drawing 1](#)].
- 2** From one blank, cut the front (A) and one side (B) to finished length [[Materials List](#)], mitering their ends at 45°. Likewise, miter-cut the back (A) and other side from the remaining blank; then cut the 2"-wide notch centered along the top of the front [[Drawing 1](#)].
- 3** Cut the plywood bottom (C) to size [[Materials List](#)]. Sand the inside faces of the front/back (A), sides (B), and bottom (C) to 150 grit.
- 4** Apply glue to the miters and in the ¼" grooves, then insert the bottom (C) into the grooves and assemble the box



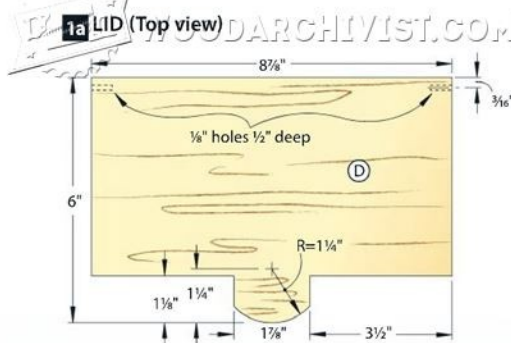
1 EXPLODED VIEW

using a band clamp to hold the parts together [Photo A]. Check for square as you tighten the band clamp and place a bar clamp across the longest diagonal, if necessary, to tweak the box into square.

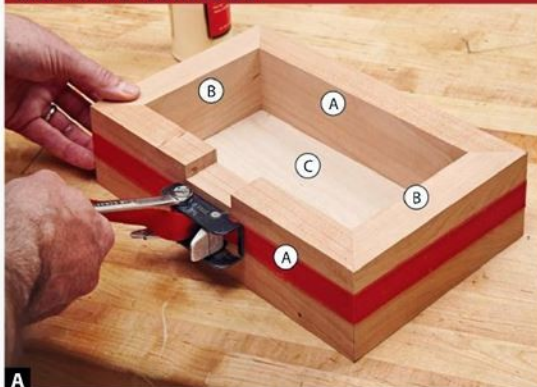
5 After the glue dries, mark the two hinge-pin locations in the sides (B) [Drawing 1]. Then use a drill press and $\frac{1}{8}$ " bit to drill the holes [Photo B].

Make and install the lid

1 To select the best grain for the lid (D) from the spalted maple, cut a cardboard mask with inner dimensions matching the lid size [Drawing 1a]. Move it around the stock

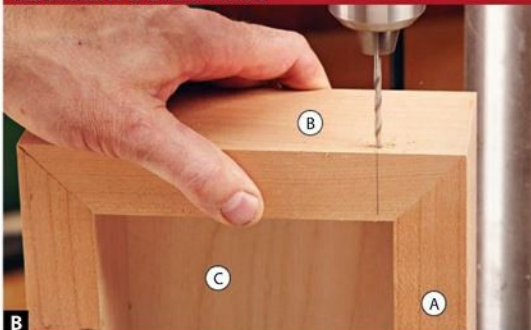


LIKE HAVING FOUR HANDS



A A band clamp consists of a ratcheting mechanism that tightens a strap of webbing, applying even clamping pressure all around the box.

ALIGNMENT IS EVERYTHING



B Mark the hinge-pin locations with a fine-point pencil for accurate bit placement. If you don't have a drill press, a drill guide will work.

GRAIN, GRAIN EVERYWHERE



C When choosing the right grain from a large piece of decorative or exotic stock, a cardboard mask helps your eyes see the smaller picture.

until you find what you like [Photo C]. Mark around the inside of the mask; then, crosscut the lid to finished length and rip it just over finished width.

2 Lay out the shape of the handle on the lid (D) [Drawing 1a]; then, bandsaw and sand the lid to finished shape.

3 Using a router table outfitted with a $\frac{1}{4}$ " round-over bit, form a bullnose on the back edge of the lid (D) [Drawing 1].

4 Make two 2"-tall spacer blocks and place them inside the box against the sides (B). Center the lid (D) in its opening—allow an equal reveal between the lid and the sides and a $\frac{1}{16}$ "-wide reveal between the back edge of the lid and the back (A); then clamp the lid in place.

5 Using the holes you previously drilled in the sides (B) as guides, drill two $\frac{1}{8}$ " holes $\frac{1}{2}$ " deep that will serve as hinge points in the lid [Photo D]. Save the spacer blocks for use later.

KEEP THE LID ALIGNED



D Clamp the lid (D) in place to prevent it from shifting when you drill the holes for the hinge pins. Note the tape on the bit that serves as a depth gauge.

Kerf, cut, and complete

1 Lay out on the box the locations of the $\frac{1}{8}$ "-wide kerfs for the decorative corner splines [Drawing 1]. Then build a jig to hold the box while cutting kerfs for the splines. (See **How to build a kerfing jig**, below left.) Draw 1" and $1\frac{3}{8}$ " depth reference lines on one corner of the bottom of the box to help set the tablesaw blade height [Photo E]. Cut the two outer kerfs $1\frac{3}{8}$ " deep in each corner first [Photo F]; then lower the blade and cut the center 1"-deep kerf. See the **Shop Tip**, below, to ensure flat-bottomed kerfs.

2 Use a fairing stick [More Resources] to lay out the curves on the top edges of the front/back (A) and the sides (B) [Photo G, Drawing 1]. Don't cut the curves yet.

SHOP TIP

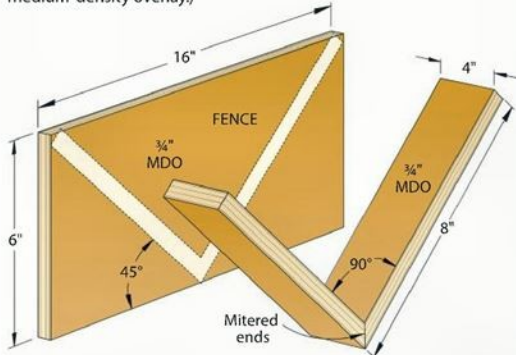
Flatten kerfs for fine-fitting splines

If you cut kerfs using an alternating top bevel (ATB) blade, V-shaped notches will show at the bottom of the kerfs. To fix this problem, cut a piece of scrap slightly thinner than the kerf. Place its edge down on adhesive-backed sandpaper and cut a strip the same width as the scrap. Use this sanding block to flatten the kerf bottoms.

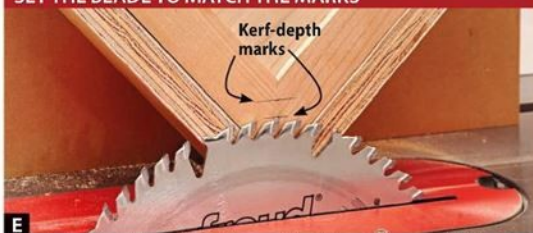


How to build a kerfing jig

This simple jig cradles the box while carrying it over the blade. Build it from three pieces of glued-together $\frac{3}{4}$ " sheet goods. (We used medium-density overlay.)



SET THE BLADE TO MATCH THE MARKS



Place the kerfing jig in position between the table saw's fence and blade, set the box in the jig, and raise the blade to a kerf-depth mark.

TRACE THE CURVES



When laying out the curves, create a profile that begins at each corner and leaves $\frac{1}{2}$ " of material at the center of the curve.

3 Plane or resaw wenge slightly thicker than the width of the kerfs in the corners. Cut the splines (E) to size [Materials List], sand them to fit the kerfs, and glue them in place, making sure they seat on the kerf bottoms. After the glue dries, bandsaw and sand the box to shape [Photo H]. Finish-sand all box and lid surfaces that still need it with 220-grit abrasive.

4 To attach the lid (D) to the box, first cut two $1\frac{1}{8}$ "-long pieces of $\frac{1}{8}$ " brass rod (available at craft stores) for hinge pins and roughen them with 100-grit sandpaper. Set inside the box the two spacer blocks you previously used to align the lid, resting against each side (B). Insert the hinge pins into the sides so they slightly protrude on the inside; then place a #5 washer onto each of the pins on the inside of the box. Mix a very small amount of two-part epoxy, dribble it into the two hinge-pin holes in the lid, and carefully wipe away any excess. Set the lid in position on the spacer blocks and press the rods into place so they seat fully in the lid.

5 After the epoxy cures, cut the rods flush and sand their ends and any remaining rough areas of the box. Then apply a finish of your choice. (We wiped on three coats of penetrating oil, sanding lightly between coats with 400-grit abrasive.)

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WATCH OUT FOR THE BLADE



When using the kerfing jig, keep your hands high on the box to avoid the blade. Apply steady pressure both down and forward.

CUT THE CURVES AND SPLINES



Work slowly as you feed the box into the bandsaw blade. Pushing too fast leaves a rougher surface and causes the blade to deflect.

Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A* front/back	$1\frac{1}{4}$ "	3"	$11\frac{1}{2}$ "	C	2
B* sides	$1\frac{1}{4}$ "	3"	$7\frac{1}{2}$ "	C	2
C bottom	$\frac{1}{4}$ "	$5\frac{1}{2}$ "	$9\frac{1}{2}$ "	BP	1
D* lid	$\frac{1}{2}$ "	6"	$8\frac{1}{2}$ "	SM	1
E splines	$\frac{1}{8}$ "	$1\frac{1}{2}$ "	2"	W	12

*Parts initially cut oversize. See the instructions.

Materials key: C—cherry, BP—birch plywood, SM—spalted maple, W—wenge.

Supplies: $\frac{1}{8}$ x $1\frac{1}{2}$ " brass rod (2), #5 washers (2), two-part epoxy.

Blade and bits: $\frac{1}{4}$ " dado blade; $\frac{1}{4}$ " round-over router bit; $\frac{1}{8}$ " drill bit.

Sources

Wood: $\frac{1}{8}$ " wenge, Rockler, no. 16451, 800-223-4441, rockler.com; Spalted maple, Spirit of the Woods, 207-668-2163, spaltedmaplelumber.com, no. SMLK-3.

Cutting Diagram

A **B** **A** **B**
 $1\frac{1}{2}$ x $3\frac{1}{2}$ x 48" Cherry (2.7 bd. ft.) *Plane or resaw to the thicknesses listed in the Materials List.



$\frac{1}{4}$ x 12 x 12" Birch plywood



$\frac{1}{2}$ x $7\frac{1}{4}$ x 12" Spalted maple (.3 bd. ft.)



$\frac{1}{4}$ x $3\frac{1}{2}$ x 16" Wenge (.1 bd. ft.)